

Merlin GM 100



BACnet Functionality

This document provides details on BACnet functionality of the Merlin GM100.

Every effort is made to ensure the accuracy of this document; however, AGS can assume no responsibility for any errors or omissions in this document or their consequences. AGS would greatly appreciate being informed of any errors or omissions that may be found in the content of this document. For information not covered in this document, or if there is a requirement to send comments/corrections, please contact AGS Northern using the contact details given below.

BACnet Interoperability Building Blocks Supported

Description	BIBB	Comments
Read Property	DS-RP-B	
Read Property Multiple	DS-RPM-B	
Write property	DS-WP-B	
Dynamic Device Binding	DM-DDB-B	Execute who is / Initiate I am
Dynamic Object Binding	DM-DOB-B	
Device Comm Control	DM-DCC-B	
Reinitialize Device	DM-RD-B	

BACnet Standard Object Types Supported

Object	No Of Instance	Instance Assignments
Device Object	1	
Analog Input (AI)	4	AI-1: [S1] CO AI-2: [S2] NO2 AI-3: Temperature AI-4: Humidity
Analog Output (AO)	2	AO-1: Analog output 1 AO-2: Analog output 2
Analog Value (AV)	14	AV-1: S1 Low Alarm AV-2: S1 High Alarm AV-3: S2 Low Alarm AV-4: S2 High Alarm

		AV-5: High Alarm Delay AV-6: Zone Number AV-7: Signal Relay Follows AV-8: Temperature Offset AV-9: Temperature High Alarm AV-10: Temperature Low Alarm AV-11: Service Warning AV-12: Service Time Left AV-13: S1 Module Working Time Left AV-14: S2 Module Working Time Left
Binary Output (BO)	1	BO-1: Signal Relay
Multi-State Value (MSV)	6	MSV-1: Temperature Unit MSV-2: Error Codes MSV-3: Deadband MSV-4: Audible Alarm MSV-5: Temperature High Alarm Enable MSV-6: Temperature Low Alarm Enable

BACnet Standard Object Types Supported

Property Name / ID	Default	Read/Write
Object Identifier	OBJECT_DEVICE: Vendor No x1000 & Mac Address	R/W
Object Name	GM Range	R/W
Object Type	8: Object Device	R
System Status	0: Operational	R
Vendor Name	American Gas Safety LLC	R
Vendor Identifier	1447	R
Model Name	Merlin GM 100	R
Firmware Revision	1.0.0	R
Application SW Version	1v0	R
Protocol Version	1	R
Protocol Revision	18	R
Protocol Services Supported	Binary List	R
Object List	Object Array	R
Max APDU Length	480	R
Segmentation Support	3: None	R
APDU Timeout	3000	R
Number APDU Retries	3	R
Database Revision	0	R
Description	Gas Detection	R/W
Location	Location	R/W
Max Master	127	R
Max Info Frames	1-16	R
Link Speed	(Baud Rate Indicator)	R
Mac Address	(Network ID)	R
1000-Proprietary (Factory Reset)	0 (AI / AO / AV / BO / MSV ONLY) 1: Prompt Reset	R/W

Analog Input Objects (AI)

Property Name / ID	Default	R/W
Object Identifier	OBJECT_ANALOG_INPUT: #	R
Object Name	AI-1: CO AI-2: NO2 AI-3: Temperature AI-4: Humidity	R

Object Type	0: Object Analog Input	R
Present Value	REAL	R
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Units	AI-1: PART PER MILLION AI-2: PART PER MILLION AI-3: DEGREES FAHRENHEIT AI-4: PERCENT RELATIVE HUMIDITY	R
Description	N/A	R/W

Analog Output Objects (AO)

Property Name / ID	Default	R/W
Object Identifier	OBJECT_ANALOG_OUTPUT: #	R
Object Name	AO-1: Analog Output 1 AO-2: Analog Output 2	R
Object Type	1: Object Analog Output	R
Present Value	Real	R
Status Flag	0000	R
Event State	0: Normal	R
Out-of-Service	False	R/W
Units	AO-1: PERCENT AO-2: PERCENT	R

Analog Value Objects (AV)

Property Name / ID	Default	R/W
Object Identifier	OBJECT_ANALOG_OUTPUT: #	R
Object Name	AV-1: S1 Low Alarm AV-2: S1 High Alarm AV-3: S2 Low Alarm AV-4: S2 High Alarm AV-5: High Alarm Delay (0-99) AV-6: Zone Number (0-10) AV-7: Signal Relay Follows (1: Low Alarm, 2: High Alarm) AV-8: Temperature Offset (-9 to +9) AV-9: Temperature High Alarm AV-10: Temperature Low Alarm AV-11: Service Warning (0: OFF, 6,12,18 Months) AV-12: Service Time Left AV-13: S1 Module Working Time Left AV-14: S2 Module Working Time Left	R
Object Type	2: Object Analog Value	R
Present Value	Real	R- R/W
Status Flag	0000	R
Event State	0: Normal	R
Out-of-Service	False	R/W
Units	AV-1: PART PER MILLION AV-2: PART PER MILLION AV-3: PART PER MILLION AV-4: PART PER MILLION AV-5: SECONDS AV-6: NO UNIT AV-7: NO UNIT AV-8: NO UNIT AV-9: DEGREES FAHRENHEIT	R

	AV-10: DEGREES FAHRENHEIT AV-11: MONTHS AV-12: HOURS AV-13: DAYS AV-14: DAYS	
--	--	--

Binary Output Objects (BO)

Property Name / ID	Default	R/W
Object Identifier	OBJECT_BINARY_OUTPUT: #	R
Object Name	BO-1: RELAY	R
Object Type	4: Object Binary Output	R
Present Value	0: OFF 1: ON	R
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Polarity	0: Normal 1: Reversed	R/W

Multi-State Value (MSV) Temperature Unit

Property Name / ID	Default	R/W
Object Identifier	OBJECT_MULTI_STATE_VALUE:1	R
Object Name	Error Codes	R
Object Type	19: Object Multi State Value	R
Present Value	2: (°Fahrenheit)	R
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Number of States	2	R
States	1: °C 2: °F	R

Multi-State Value (MSV) Error Codes

Property Name / ID	Default	R/W
Object Identifier	OBJECT_MULTI_STATE_VALUE:2	R
Object Name	Error Codes	R
Object Type	19: Object Multi State Value	R
Present Value	1: (No Error)	R
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Number of States	10	R
States	1: No Error 2: EEPROM Error 3: Temperature Sensor Error 4: DAC Error 5: M1 Error 6: M2 Error 7: S1 Wrong Type	R

	8: S1 Module Missing 9: S2 Wrong Type 10: S2 Module Missing	
--	---	--

Multi-State Value (MSV) Deadband

Property Name / ID	Default	R/W
Object Identifier	OBJECT_MULTI_STATE_VALUE:3	R
Object Name	Deadband	R
Object Type	19: Object Multi State Value	R
Present Value	1: (OFF)	R/W
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Number of States	2	R
States	1: OFF 2: ON	R

Multi-State Value (MSV) Audible Alarm

Property Name / ID	Default	R/W
Object Identifier	OBJECT_MULTI_STATE_VALUE:4	R
Object Name	Audible Alarm	R
Object Type	19: Object Multi State Value	R
Present Value	1: (OFF)	R/W
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Number of States	2	R
States	1: OFF 2: ON	R

Multi-State Value (MSV) Temperature High Alarm Enable

Property Name / ID	Default	R/W
Object Identifier	OBJECT_MULTI_STATE_VALUE:5	R
Object Name	Temperature High Alarm Enable	R
Object Type	19: Object Multi State Value	R
Present Value	1: (OFF)	R/W
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Number of States	2	R
States	1: OFF 2: ON	R

Multi-State Value (MSV) Temperature Low Alarm Enable

Property Name / ID	Default	R/W
Object Identifier	OBJECT_MULTI_STATE_VALUE:6	R
Object Name	Temperature Low Alarm Enable	R
Object Type	19: Object Multi State Value	R
Present Value	1: (OFF)	R/W
Status Flag	0000	R
Event State	NORMAL	R
Out-of-Service	FALSE	R/W
Number of States	2	R
States	1: OFF 2: ON	R

Intentionally blank page

For more information visit www.bacnet.org

American Gas Safety LLC

americangassafety.com

6304 Benjamin Road, Suite 502, Tampa FL 33634

AGS is the owner of this document and reserves all rights of modification without prior notice.

